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SHOULD ANCILLARY SERVICES BE BUNDLED INTO PAYMENTS FOR OUTPATIENT SURGERY?

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INTRODUCTION

The increasing volume of surgical procedures performed on Medicare patients in hospital outpatient departments, and the increasing Medicare expenditures on outpatient department (OPD) services in general, have sparked interest in the development of a prospective payment system (PPS) for hospital OPDs. In addition, the implementation of PPS's for inpatient hospital care and for surgical procedures performed in ambulatory surgery centers has lead policy makers to believe that substantial cost savings could by achieved by implementing a PPS in hospital OPDs. Toward this end, Congress has mandated that the Health Care Financing Administration (HCFA) develop and implement a prospective payment system for hospital OPDs by January 1991.

Currently, three classification systems are being considered for use in the prospective payment system -- Ambulatory Patient Groups (APGs), Products of Ambulatory Care and Surgery (PACS) and Ambulatory Surgery Center (ASC) flat-rate groups. One key decision which must be made before any system is implemented is how to pay for ancillary services provided in conjunction with other procedures. Ancillary services, as discussed in this paper, refer to radiology and laboratory services.

Several options seem immediately apparent: (1) Include all ancillary services in the payment rate; (2) Include routine or minor ancillary services such as x-rays and urinalysis in the payment rate and reimburse the more significant services, generally those that are more costly, with a separate payment; and (3) Do not include ancillary services in the procedure payment rate, but pay for them separately.

TO BUNDLE OR NOT TO BUNDLE?

The first two of these three options can be referred to as "bundling". This means that in calculating procedure or group weights for a PPS, the specific procedure plus related ancillary services are packaged together, and one weight is established encompassing both the major procedure and all related ancillary procedures. Thus, for example, the weight assigned to a cystoscopy procedure would include both the actual cystoscopy and related pathology analysis.

The broadest form of "bundling" is the establishment of episodes of care.[1] Episodes bundle together related services and related visits during a specified time period. Under an episode payment system, the weight for the cystoscopy might include the cystoscopy procedure, related ancillary procedures, and all related pre- and post-procedure clinic or office visits.

The three systems currently under consideration for implementation as a Medicare outpatient PPS are all visit-based. They are thus concerned with the bundling of services within the context of a single visit, rather than the linkage of related visits. However, it should be noted that the PAC system requires that the facility assume responsibility for the provision of ancillary services. The PAC payment weights and rates thus include related ancillary procedures. Since the Ambulatory Patient Group system is still in the development phase, it can be designed to either bundle in ancillaries or not.

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1. Actually, the broadest form of bundling is a capitated payment system, in which a single provider or health maintenance organization is paid a lump sum amount per patient, and is financially responsible for all services delivered to that patient.

Advantages of Bundling

Perhaps the first question is why should bundling be an issue at all? What are the advantages to bundling which lead one to consider it as a system option? Several potential advantages to the bundling of related services can be noted.

First, bundling may help to control volume growth. While price increases have contributed to the rapid growth in Medicare outlays, most of the recent growth in expenditures is attributable to increases in service volume. With a bundling system where ancillaries are incorporated into the payment rate for major procedures, the incentive to provide numerous ancillary services is reduced. Bundling provides a financial incentive to eliminate the provision of unnecessary ancillary services.

Furthermore, bundling may discourage the proliferation of providers. For example, just as hospital outpatient services grew after the implementation of a PPS for inpatient care, without bundling provisions hospitals would have incentives to set up separate freestanding laboratory or radiology centers. Such centers would not be covered under the prospective payment system. This would reduce the cost-containment advantages which could be achieved with a PPS.

Yet another advantage is that bundling may encourage continuity of care. If providers are financially responsible for ancillary services, they may be more likely to incorporate the findings of tests into the treatment plan. The provider who treats the patient must interpret and incorporate the results of ancillary tests rather than having the tests performed by and interpreted by another provider. Under existing Medicare regulations, outpatient departments

must bill for any test performed so long as they receive and interpret the results.[2]

Finally, bundling may encourage more efficient delivery of care. The concept of bundled or packaged services encourages physicians to view the patient care process more broadly and provides incentives for the elimination of marginal procedures.[3] Providers have a greater incentive to substitute less costly but equally effective forms of care. For example, if a physician has the option to reach a diagnosis by either spending an additional five minutes questioning a patient about symptoms, or ordering a lab test, bundling could provide the incentive to choose the less costly option. Similarly, if a physician can confirm a diagnosis with a single test rather than a battery of tests, he will be less likely to order the complete battery under a bundled payment rate. Alternatively, when faced with a choice between two equally effective tests, one more expensive than the other, bundling can provide the incentive to select the less costly test. In general, bundling encourages efficient substitutions within treatment options.

Disadvantages of Bundling

What potential disadvantages does bundling have? Some of the potential advantages of bundling may also involve potential disadvantages. If weights or payment rates are set inequitably, the financial incentives to provide only necessary care may result in disincentives to provide necessary care. Thus

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2. It should be noted, however, that ancillary services provided in conjunction with another procedure may be billed on a separate claim. Thus, under the current system, reliance on a single provider does not necessarily result in the submission of a single claim, or a single payment for related services.

3. Janet B. Mitchell, Jerry Cromwell, Kathleen A. Calore, and William B. Stason, "Packaging Physician Services: Alternative Approaches to Medicare Part B Reimbursement," Inquiry 24 (Winter 1987), p. 325.

beneficiaries may receive a lower quality of care because they do not receive necessary or adequate services, or they may be denied access to care.

If for example, weights and/or rates for expensive procedures such as CAT (computerized axial tomography) scans, are set too low, providers may choose not to treat patients who are likely to require such services. This is one reason why the second bundling option (include routine tests in the payment rate but establish a separate group for more expensive, less routine procedures such as CAT scans) is offered. If CAT scans are performed one out of a hundred times when a certain type of surgery is performed, and the payment rate for that CAT scan is bundled in at 1/100th of the CAT scan cost, a provider may not be willing to provide a CAT scan knowing that the financial break-even will occur only after 100 surgeries have been performed.

The advantages of volume control achieved through the bundling of ancillary services with major procedures may be offset by financial incentives to provide more visits. Within the context of a given visit, incentives will exist to eliminate marginal procedures, e.g., two lab tests may be ordered rather than three. However, the financial incentives to spread the cost of two lab tests across two visits rather than one visit will still exist. While bundling can address incentives to control tests provided in conjunction with a given visit, it cannot address incentives to provide revisits. This problem is not truly a bundling issue, but rather a question of establishing an episode versus a visit-based system. It is relevant, however, to the level of volume control which regulators can expect to achieve through bundling. While bundling within a visit-based system could contribute to improved volume control, it is a less-effective control mechanism than episode-based payment.

Administrative Issues

Finally, there are several administrative questions which must be addressed in order to make bundling a viable payment option. First, the bundling requirement must be uniform. It must apply uniformly to all payment groups, or at a minimum to all procedures within a group. For example, if a PPS contains ten groups, then either: all ten groups must have weights and payment rates which incorporate bundled services; or all procedures in any given group must include bundled weights and payment rates. Thus, if Group 2 of a system includes all scope procedures, then all scopes must either include or exclude related ancillary services. It would be too administratively complex to permit endoscopy procedures to involve separate bills/charges for ancillary services, while requiring all cystoscopy claims to include the cystoscopy and related ancillaries if both scope procedures fall into category 2. Such a system would be too difficult to administer effectively.

In addition, unless all groups either include or exclude bundled ancillaries, all procedures must group uniquely. Following the example above, if cystoscopies can group into either group 1 or group 2, then groups 1 and 2 must have a uniform bundling requirement.

An alternative to these options is to establish a list of ancillaries which may never be billed for separately. Under this type of system, regulators could, for example, prohibit any separate bills/charges for chest X-rays or routine urinalysis, while permitting separate bills for other types of ancillaries. Under that arrangement, carriers/intermediaries could establish simple edit checks which would reject claims for chest x-rays or urinalyses, but accept claims for other ancillary services. However, this option touches upon yet another administrative issue, discussed below.

The final administrative question involves the issue of which provider is responsible for the provision of and billing for ancillary services. Bundling outpatient department facility services shifts much of the burden of financial responsibility for service level and mix to the facility. However, patient services are generally ordered by an attending physician, not by the hospital.

As will be shown in following sections, outpatients are frequently referred to the hospital for the sole purpose of ancillary testing. If a patient is under a physician's care and the physician does not have X-ray or laboratory equipment in his office, he may refer the patient to the hospital for radiology or laboratory procedures. Thus that patient's visit to the hospital will include only ancillary services. How should those services be reimbursed, and who should receive the reimbursement?

Under current rules, if the hospital receives the test results and performs the interpretation, the hospital is responsible for the bill. However, this defeats the previously discussed rule of "no separate bills for ancillaries allowed". If the hospital performs referred services for patients of office-based physicians, and is responsible for billing for them, then the hospital must be able to submit bills which include only the provision of ancillary services.[4] This also implies that hospitals will be at financial risk for services which they technically did not order and over which they have limited control.

If hospitals are permitted to bill for ancillary services provided to referred patients, then intermediaries must have the ability to routinely link beneficiary claims in order to insure that the ancillaries were truly provided

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4. "Referred services" means that the patient was referred to the hospital outpatient department by an office-based physician. Patients may be directed to an OPD to receive ancillary services if the physician does not have radiology or laboratory facilities in his office.

to a referred patient. Otherwise, hospitals could simply submit two claims, one for the ancillaries only, and the other for related services. The ancillary claim would then appear to the intermediary as ancillary services provided to a referred patient.

Alternatively, the Medicare facility bill could be altered to identify the referring physician. The referring physician could then be required to bill for the services provided in the hospital outpatient department and to personally reimburse the hospital for provision of the services.[5] This has the potential for administrative complexity, at both the program and provider level.

Furthermore, if bundling provisions are enacted, intermediaries and carriers must be able to link outpatient bills with bills from other providers to insure that Medicare is not double billed for services. For example, if ancillary services are to be bundled into the hospitals' payment rates, then Medicare should not be billed separately by physicians, or by hospital-affiliated freestanding laboratory or radiology centers.

With these considerations in mind, we turn to an examination of the current pattern of ancillary service provision in hospital outpatient departments.

ANCILLARY SERVICE PROVISION IN HOSPITAL OPDS

Data from the 1987 Hospital Outpatient File, 5 percent Medicare beneficiary sample, were used to determine general ancillary service provision patterns in hospital OPDs. Ideally, HCPCS (Health Care Financing

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5. The referring physician's identification number is currently required on several types of Part B bills. However, it is not currently required in hospital bills.

Administration Common Procedure Coding System) codes in the laboratory and radiology range would be used to identify claims with ancillary services and the specific test or diagnostic service provided. However, requirements for the reporting of HCPCS codes for these services were not in effect for all of 1987. This resulted in inconsistent reporting of these services. To compensate for this incomplete HCPCS coding, revenue center codes and associated charges were used to identify claims where ancillary services were provided. Revenue center codes identify the specific cost centers to which charges on a given claim are distributed. As such, the presence of charges in an ancillary related revenue center indicates ancillary service provision. This approach also allows the determination of total charges attributable to ancillary services. Unfortunately, it does not allow the identification of specific ancillary procedures. The following revenue center codes were used to represent ancillary services:

Laboratory Services

Laboratory - Charges for the performance of diagnostic and routine clinical laboratory tests.

Laboratory Pathological - Charges for diagnostic and routine laboratory tests on tissues and cultures.

Radiology Services

Diagnostic Radiology - Charges for diagnostic radiology services provided for the examination and care of patients. Includes: taking, processing, examining and interpreting radiographs and flourographs.

Therapeutic Radiology - Charges for therapeutic radiology services and chemotherapy required for care and treatment of patients. Includes therapy by injection or ingestion of radioactive substances.

Nuclear Medicine - Charges for procedures and tests performed by a radioisotope laboratory utilizing radioactive materials as required for diagnosis and treatment of patients.

CAT Scan - Charges for computerized axial tomographic scans of the head and other parts of the body.

Prevalence of Ancillary Services on Outpatient Claims

Approximately 2 million outpatient claims were examined to determine what percentage of OPD visits included the provision of ancillary services. (See Table 1) More than two-thirds of these claims, 67.3 percent or 1,342,352 claims, contained charges for ancillary services. Moreover, approximately 40 percent of all visits contained only charges for ancillary services.[6] In fact, 65.8 percent of the claims with ancillary charges had only charges for ancillary services.

Claims with laboratory charges totaled 914,145, or 45.9 percent of all OPD claims. Of these claims, over half, or twenty-seven percent of all OPD claims examined, had only laboratory charges. A similar pattern existed for radiology services. Thirty-one percent of OPD claims included charges for radiology services, while 299,549 claims, or 15.0 percent of all OPD claims, contained only radiology charges. In addition, approximately half of the claims with radiology charges contained only charges for radiology services.

These results indicate that the majority of OPD visits include the provision of ancillary services either alone or in conjunction with other services. While in 44.3 percent of total claims only ancillary services are provided, 22.9 percent of total claims contain ancillary as well as other charges indicating that the ancillary services are occurring in conjunction with other types of services.

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6. Over 44 percent of all claims contained only ancillary services. However, since this could reflect both billing practices and actual treatment practices, we matched OPD claims within the file by beneficiary and date of service. In roughly 4 percent of the cases, beneficiaries had received additional nonancillary services which had been billed on a separate claim.

Table 1

Number and Percentage of Hospital Outpatient Claims
with Ancillary Charges, Laboratory Charges
and Radiology Charges

	Number of Claims	Percentage of Claims
Total Number of Claims	1,993,246	100.0%
Claims with Ancillary Charges	1,342,352	67.3%
Claims with only Ancillary Charges	883,308	44.3%
Claims with Laboratory Charges	914,145	45.9%
Claims with only Laboratory Charges	534,736	27.3%
Claims with Radiology Charges	612,611	30.7%
Claims with only Radiology Charges	299,549	15.0%

Source: 1987 OPD Hospital File - 5% Beneficiary Sample

Note: There are 49,023 claims which have only radiology and laboratory charges and have both radiology and laboratory charges.

Prevalence of Ancillary Services on Outpatient Surgery Claims

The most easily identifiable procedures on the 1987 outpatient file are surgery procedures. Coding of surgery procedures is the most complete form of coding on the file. Medicine procedure codes are present in very small numbers because they are not required by regulations. As noted earlier, radiology and pathology codes are coded inconsistently across intermediaries and providers. In order to enhance our ability to identify specific procedures performed in conjunction with ancillary services, we have focused this analysis on surgery claims. This includes claims with HCPCS codes in the 10000-69999 range, or ICD-9 (International Classification of Disease, 9th Edition) procedure codes in the 1.0-86.9 range.

All single code surgery claims contained on the hospital outpatient file -- 111,702 claims -- were examined to determine patterns of ancillary service provision occurring in conjunction with surgery procedures.[7] As can be seen in Table 2, 57.96 percent of all surgery claims contain charges in ancillary revenue centers. Approximately 50 percent of the surgery claims include charges in laboratory revenue centers and 23 percent include charges in radiology revenue centers.

Table 2 also reports the distribution of claims across the ancillary revenue centers. Thirty-eight percent of all surgery claims contain laboratory charges and 20.56 percent have laboratory-pathology charges. Twenty-three percent of surgery claims include diagnostic radiology charges; charges in other radiology revenue centers occur in less than 2 percent of surgery claims.

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7. Single code surgery claims include claims that have either only one ICD-9 or HCPCS code in the surgery range, or only paired cataract procedure codes in the ICD-9 range.

Table 2

Number and Percentage of Surgery Claims Containing Charges for All Ancillary Services, Laboratory Services, Radiology Services, and By Revenue Center[a]

	Number of Surgery Claims with Charges	Percentage of Surgery Claims with Charges
Ancillary Services	64,748	57.96%
Laboratory Services	55,726	49.89%
Laboratory	42,632	38.17%
Laboratory Pathology	22,963	20.56%
Radiology Services	26,051	23.32%
Diagnostic Radiology	25,300	22.65%
Therapeutic Radiology	263	0.23%
Nuclear Medicine	458	0.41%
CT Scan	729	0.65%

Source: 1987 OPD Hospital File - 5% Beneficiary Sample

a. Counts once any claim with at least one charge in the specified revenue center category. Since a single claim may contain charges in more than one selected revenue center (e.g., one claim can contain both a laboratory and laboratory pathology charge), subcategories do not sum to the total.

Ancillary provision in conjunction with surgery procedures is substantial -- more than 50 percent of the claims contain ancillary service charges. However, this percentage may vary considerably by procedure. This variation is discussed in greater detail in a subsequent section.

Average Charges for Ancillary Services on Surgery Claims

Table 3 presents the average charges for ancillary services by revenue center. Two types of average charges are presented. The first one, labeled "Claims with Charges," is the average charge for a given revenue center for claims that have charges in the revenue center, i.e., it indicates the charges for ancillary services when they are provided. The second average, labeled "All Claims," is the average charge in the revenue center for all claims including those that have no charges in the revenue center.

Average laboratory and laboratory pathology charges on surgery claims with charges in these revenue centers are $83.96 and $54.20, respectively. Average charges for diagnostic radiology are $107.21. Charges for therapeutic radiology, nuclear medicine and CAT scan are $378.04, $230.33, and $455.83, respectively. As noted in the previous section, these services are provided in less than 2 percent of all surgery claims. At the same time, they are quite expensive when they are provided.

On average, laboratory services account for 6.76 percent of total charges for surgery procedures performed in hospital OPDs. Diagnostic radiology accounts for 4.80 percent and laboratory pathology for 2.80 percent. The remaining ancillary revenue centers, on average, account for less than 1 percent of total charges. On average, ancillary services account for 14.92 percent of total charges for surgery procedures performed in hospital OPDs. Again, it is likely that these figures vary by procedure.

Table 3

Average Ancillary Service Charges for Surgery Procedures by Revenue Center, and Average Percentage of Total Charges Attributable to Ancillary Services

	Claims with Charges[a]	All Claims[b]	Percentage of Total Charges Attributable to Ancillary Services[c]
Laboratory			
Laboratory	$83.96	$32.17	6.76%
Laboratory Pathology	.54.20	11.18	2.80
Radiology			
Diagnostic Radiology	107.21	24.37	4.80
Therapeutic Radiology	378.04	0.89	0.08
Nuclear Medicine	230.33	0.95	0.15
CAT Scan	455.83	2.99	0.33
Average Total Charge for Surgery Claims		$728.08	14.92%

Source: 1987 Hospital Outpatient file - 5% Beneficiary Sample

a. Average based on all OPD surgery claims with charges in a given revenue center.
b. Average based on all OPD surgery claims.
c. Percentages based on all OPD surgery claims.

Utilization of and Charges for Ancillary Services Among the Most Important Surgery Procedures

The six surgery procedures most frequently performed in hospital OPDs were selected for further analysis. They include HCPCS code 66984--extracapsular cataract extraction and insertion of lens, one-stage procedure; HCPCS code 45330--other endoscopy of the large intestine; HCPCS code 52000--other cystoscopy; HCPCS code 11402--other local excision or destruction of lesion or tissue of skin and subcutaneous tissue; HCPCS code 12001--suture of skin and subcutaneous tissue of other sites; and HCPCS code 43235--other endoscopy of small intestine. Together these procedures account for roughly 35 percent of single code surgery claims.

As can be seen in Table 4 there is substantial variation in the percentage of claims with charges in each of the ancillary revenue centers. For example, 58 percent of cataract extracapsular extraction and insertion of lens claims contain charges in the laboratory revenue center, while only 7 percent of suture of skin and subcutaneous tissue of other sites claims contain charges in this revenue center.

One pattern which stands out clearly across procedures is that fewer than one percent of claims have charges in the therapeutic radiology, nuclear medicine and CAT scan revenue centers. This pattern is consistent with that for all surgery claims. In addition, all three scope procedures exhibit similar percentages of claims with charges in laboratory, laboratory pathology and diagnostic radiology.

While considerable variation exists in the percentage of claims with charges in laboratory, laboratory pathology, and diagnostic radiology, average charges for claims that have charges in these revenue centers are fairly consistent across procedures. (See Table 5) For example, charges in the

Table 4

Number and Percentage of Claims with Charges for Ancillary Services for Six Procedures, By Revenue Center

	Extracapsular Cataract Extraction and Insertion of Lens n = 8635		Other Endoscopy of Large Intestine n = 6965		Other Cystoscopy n = 2535		Other Endoscopy of Small Intestine n = 4675		Other Local Excision or Destruction of Lesion or Tissue of Skin & Subcutaneous Tissue n = 4589		Suture of Skin & Subcutaneous Tissue of Other Site n = 2973	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Revenue Center												
Laboratory												
Laboratory	5039	58.36%	1376	19.75%	2378	50.87%	504	19.88%	1518	33.08%	203	6.83%
Laboratory Pathology	1803	20.88	945	13.57	670	13.26	380	14.99	1939	42.25	23	0.77
Radiology												
Diagnostic Radiology	2079	24.18	1582	22.71	1548	33.11	225	8.88	216	4.71	1017	34.2
Therapeutic Radiology	8	0.09	17	0.24	18	0.38	3	0.12	7	0.15	1	0.03
Nuclear Medicine	2	0.02	24	0.34	28	0.60	15	0.59	11	0.24	1	0.03
CAT Scan	5	0.06	15	0.22	31	0.66	23	0.91	3	0.07	1	0.03

Source: 1987 Hospital Outpatient File - 5% Beneficiary Sample

Table 5

Average Charges for Ancillary Services for Six Procedures by Revenue Center
for Claims with Charges in a Given Revenue Center and for All Claims

	Extracapsular Cataract Extraction and Insertion of Lens		Other Endoscopy of Large Intestine		Other Cystoscopy		Other Endoscopy of Small Intestine		Other Local Excision or Destruction of Lesion or Tissue of Skin & Subcutaneous Tissue		Suture of Skin & Subcutaneous Tissue of Other Site	
	Claims with Charges	All Claims	Claims with Charges	All Claims	Claims with Charges	All Claims	Claims with Charges	All Claims	Claims with Charges	All Claims	Claims with Charges	All Claims
Revenue Center												
Laboratory												
Laboratory	$57.75	$33.70	$60.47	$11.95	$59.70	$30.37	$62.98	$12.52	$59.57	$19.70	$55.10	$3.76
Laboratory Pathology	16.67	3.48	53.00	7.19	40.94	5.43	59.24	8.88	52.72	22.28	$51.21	0.40
Radiology												
Diagnostic Radiology	47.36	11.40	127.10	28.87	111.99	37.08	107.89	9.58	77.11	3.63	75.03	25.67
Therapeutic Radiology	37.04	0.03	71.64	0.18	92.14	0.35	23.34	0.03	79.51	0.12	30.17	0.01
Nuclear Medicine	90.70	0.02	165.72	0.57	215.37	1.29	135.33	0.80	163.64	0.39	40.00	0.01
CAT Scan	298.82	0.17	294.37	0.63	386.14	2.56	348.48	3.16	382.00	0.25	78.00	0.03
Total Average Ancillary Charge		48.80		49.39		77.08		34.97		46.37		29.88
Total Average Charge		$1782.21		$296.86		$461.06		$315.77		$275.06		$134.52

Source: 1987 Hospital Outpatient File - 5% Beneficiary Sample

laboratory revenue center range from 55 to 63 dollars; with the exception of extracapsular cataract extraction and insertion of lens, charges in the laboratory pathology revenue center range from 40 to 60 dollars. The three scope procedures -- other endoscopy of large intestine, other cystoscopy, and other endoscopy of small intestine -- have average charges of $127, $112, and $108 respectively in the diagnostic radiology revenue center. This type of consistency suggests that perhaps a standard regimen of tests are being ordered for some patients or by some physicians. Data with complete HCPCS codes for ancillary services would be required to test this theory.

One other pattern is worth noting. Both the percentage of claims containing charges in each revenue center and the average charges for ancillary services when they are provided are fairly consistent across the three scope procedures -- other endoscopy of large intestine, other cystoscopy and other endoscopy of intestine. This may indicate that predictable patterns of ancillary service provision exist within classes of procedures. An examination of these patterns across several classes of procedures would be informative.

Not surprisingly, the average charge for all claims shows substantial variation. This results from the combined variation in the percentage of claims where ancillary services are provided and in variation in charges across procedures.

Table 6 presents the average percentage of charges attributable to each revenue center. With the exception of the cataract extraction and lens insertion, on average, ancillary services account for more than 9 percent of total charges and range from 9.39 percent to 19.73 percent for the surgery procedures examined here. These figures are consistent with the overall average for surgery procedures of 14.92 percent. However, when the percentage of total charges attributable to each revenue center is examined, considerable

Table 6

Average Percentage of Total Charges Attributable to Ancillary Services for Six Procedures
By Revenue Center

	Extracapsular Cataract Extraction and Insertion of Lens n = 8635	Other Endoscopy of Large Intestine n = 6965	Other Cystoscopy n = 2535	Other Endoscopy of Small Intestine n = 4675	Other Local Excision or Destruction of Lesion or Tissue of Skin & Subcutaneous Tissue n = 4589	Suture of Skin & Subcutaneous Tissue of Other Site n = 2973
Revenue Center						
Laboratory						
Laboratory	1.86%	3.58%	7.04%	3.49%	8.57%	2.10%
Laboratory Pathology	0.20	2.10	1.42	2.48	9.98	0.21
Radiology						
Diagnostic Radiology	0.61	10.21	7.34	2.70	0.99	13.46
Therapeutic Radiology	0.003	0.08	0.08	0.01	0.04	0.005
Nuclear Medicine	0.001	0.13	0.18	0.17	0.12	0.01
CAT Scan	0.02	0.12	0.33	0.54	0.03	0.01
Average Percentage of Charges Attributable to Ancillary Services	2.69%	16.22%	16.39%	9.39%	19.73%	15.80%

Source: 1987 Hospital Outpatient File - 5% Beneficiary Sample

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variation across procedures is found. The average percentage of total charges attributable to laboratory, ranges from 1.86 percent for extracapsular extraction of cataract and insertion of lens to 8.57 percent for other local excision or destruction of lesion or tissue of skin and subcutaneous tissue. For laboratory pathology, the low and high procedures are the same as for laboratory, and the percentages range from 0.20 to 9.98 percent. The average percentage of total charges for diagnostic radiology ranges from 0.61 percent for cataract extraction and lens insertion to 13.46 percent for suture of skin and subcutaneous tissue of other site. The percentage of total charges attributable to therapeutic radiology, nuclear medicine and CT scan are always less than one percent. The average percentage of total charges attributable to all ancillary services varies substantially, as can be seen by the range of 2.69 percent for cataract extraction and lens insertion to 19.73 percent for other local excision or destruction of lesion or tissue of skin and subcutaneous tissue.

Surgery Procedures with High Rates of Associated Ancillary Services

In the previous section we examined the provision of ancillary services for the most frequently performed outpatient surgery procedures. This section approaches the question from the opposite perspective, namely which outpatient surgery procedures have the highest rates of associated ancillary services?

Table 7 displays the surgery procedures with the highest rates of laboratory and radiology services included in the surgery visit. We confined our analysis to single code surgery claims where the surgery code appeared at

Table 7

Percentage of Claims with Laboratory Charge for Selected Surgical Procedures

Surgery Code (HCPCS)	Description	% of Claims with Laboratory Charge
11400	Excision, benign lesion, except skin tag (unless listed elsewhere); trunk, arms or legs; lesion diameter 0.5 cm or less	76.34
19260	Excision of chest wall tumor including ribs	74.67
28820	Amputation, toe; metatarsophalangeal joint	73.85
45370	Colonoscopy, fiberoptic, beyond 25cm to splenic flexure	71.43
37609	Ligation or biopsy, temporal artery	71.43
67840	Excision of lesion of eyelid (except chalazion) without closure or with simple direct closure	71.19
11440	Excision, other benign lesion (unless listed elsewhere), face, ears, eyelids, nose, lips, mucous membrane; lesion diameter 0.5 cm or less	69.82
11420	Excision, benign lesion, except skin tag (unless listed elsewhere); scalp, neck, hands, feet, genitalia; lesion diameter 0.5 cm or less	69.47
54521	Orchiectomy, simple (including subcapsular) with or without testicular prosthesis, scrotal or inguinal approach, bilateral	69.37
20220	Biopsy, bone, trocar or needle; superficial (e.g., ilium, sternum, spinous process, ribs)	68.96
45380	Colonoscopy, fiberoptic, beyond splenic flexure for biopsy and/or collection of specimen by brushing or washing	68.67
38500	Biopsy or excision of lymph node(s); superficial (separate procedure)	68.35
38525	Biopsy or excision of lymph node(s); deep axillary node(s)	67.92

Surgery Code (HCPCS)	Description	% of Claims with Laboratory Charge
43239	Upper gastrointestinal endoscopy including esophagus, stomach, and either the duodenum and/or jejenum as appropriate for biopsy and/or collection of specimen by brushing or washing	67.58
27345	Excision of synovial cyst of popliteal space (Baker's cyst)	67.35
45385	Colonoscopy, fiberoptic, beyond splenic flexure for removal of polypoid lesion(s)	67.32
30117	Excision, intranasal lesion; internal approach	67.19
20200	Biopsy, muscle - superficial	66.67
44110	Excision of one or more lesions of small or large bowel not requiring Anastomosis, exteriorization or fistulization single enterotomy	65.52
43605	Biopsy of stomach by laparotomy	64.61
45333	Sigmoidoscopy, flexible fiberoptic for removal of polypoid lesion(s)	64.52
24105	Excision, olecranon bursa	63.93
28080	Excision of interdigital (Morton) neuroma, single, each	63.92
11402	Excision, benign lesion, except skin tag (unless listed elsewhere); trunk, arms or legs; lesion diameter 1.1 to 2.0 cm	63.76
45365	Colonoscopy, fiberoptic, beyond 25 cm to splenic flexure	63.41
65420	Excision or transposition of pterygium without graft	62.90
15920	Excision, coccygeal pressure ulcer, with coccygectomy with primary suture	62.64
55700	Biopsy, prostate; needle or punch, single or multiple, any approach	61.05
25111	Excision of ganglion, wrist (dorsal or volar) primary	60.63

Source: 1987 Hospital Outpatient File - 5% Beneficiary Sample

least fifty times in the data file. There were 172 individual CPT-4 codes which met this criteria.[8] Of those, 53 (31%) of the surgery procedures had laboratory charges associated with them less than 20 percent of the time. An additional 45 (26%) procedures had associated laboratory charges between 20 and 39 percent of the time. Twenty-three procedures (13%) had associated laboratory charges between 40 and 49 percent of the time, and the remaining 51 procedures (30%) had associated laboratory services at least half the time. The surgery procedures listed in Table 7 include all those with an associated laboratory charge on at least 60 percent of claims. As shown there, for example, 76 percent of the time that an excision of a benign lesion (procedure code 11400) was performed, a laboratory service was also performed. In general, the surgery procedures identified as having a high rate of associated laboratory procedures fall into two categories, those involving excisions or biopsies, and those involving scope procedures, such as colonoscopies.

Far fewer surgery procedures had an associated radiology procedure a large percentage of the time. Among the 172 most frequently performed surgeries, 27 (16%) never had an associated radiology charge; 89 (52%) had an associated radiology charge less than 5 percent of the time; 26 (15%) had a radiology service between 5 percent and 10 percent of the time; 21 (12%) had a radiology service at least 10 percent of the time, but less than 30 percent of the time; the remaining nine surgery procedures had associated radiology procedures 30

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8. A complete listing of the 172 surgery codes and their respective percentages of claims with lab charges, radiology charges, or lab and radiology charges is included in Appendices A through D. The HCPCS surgery code with the highest percentage of associated laboratory procedures was 45053. That code appeared on 261 outpatient claims, and had an associated lab charge on 83.1 percent of those claims. However, 45053, while within the surgery range of 10,000-69,979, is not a valid HCPCS code. More than likely, it represents a miscoding of a scope procedure. Procedure code 90955 hemodialysis is outside the HCPCS surgery range, but was included here because its corresponding ICD-9 code (39.95) is within the surgery range.

percent of the time or more. Table 8 includes a listing of the surgery procedures which had an associated radiology charge at least 60 percent of the time. As can be seen from Table 8, only four surgery codes met this criteria. They are, not surprisingly, most generally characterized as procedures which pertain to fractures and dislocations.

Only 26 surgery procedures had both a laboratory and a radiology service associated with the surgery at least 30 percent of the time. Only four surgery codes had both radiology and laboratory charges on 60 percent or more of the claims. Those four codes are included in Table 9. Once again, the relevant surgery codes are predominantly biopsies and scopes.

With this information in hand, we then examined merged claims for those surgery procedures identified in Table 7 as having a high percentage of associated laboratory services.[9] The purpose of this analysis was to determine when there is a high rate of associated laboratory services, which laboratory procedures dominate. If lab services are to be bundled into a surgery payment rate, then the specific lab procedure which should be bundled in, must be known. Otherwise, it would be difficult to establish a decision rule as to what is or is not included in the bundle, as well as to identify an acceptable payment level for the packaged services.

Based on a sample of 2,156 such claims, two laboratory procedures account for 53 percent of all laboratory services associated with the selected surgery

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9. Merged claims refers to claims from a merged 1987 BMAD beneficiary file and the 1987 hospital outpatient file. This merged file was used for this portion of the analysis since it contains more complete coding of radiology and laboratory services than does the outpatient file.

Table 8

Percentage of Claims with Radiology Charge
for Selected Surgical Procedures

Surgery Code (HCPCS)	Description	% of Claims with Radiology Charge
23650	Treatment of closed shoulder dislocation, with manipulation, without anesthesia	84.88
29125	Application of short arm splint (forearm to hand) static	82.93
25600	Treatment of closed distal radial fracture (e.g., Colles or Smith type) or epiphyseal separation, with or without fracture of ulnar styloid, without manipulation	72.94
43268	Endoscopic retrograde cholangiopancreatography (ERCP) with or without biopsy and/or collection of specimen for insertion of tube or stent into bile or pancreatic duct	62.90

Source: 1987 Hospital Outpatient File - 5% Beneficiary Sample

Table 9

Percentage of Claims with Both Laboratory & Radiology
Charges for Selected Surgical Procedures

Surgery Code (HCPCS)	Description	% of Claims with Both Laboratory & Radiology Charges
32405	Biopsy, lung or mediastinum, percutaneous needle	74.85
30000	Drainage abscess or hematoma, nasal, internal approach	70.42
30100	Biopsy, intranasal	65.93
31628	Bronchoscopy with transbronchial lung biopsy, with or without fluoroscopic guidance	61.67

Source: 1987 Hospital Outpatient File - 5% Beneficiary Sample

codes.[10] These codes are 88304 (Diagnostic exam, small or uncomplicated specimen; e.g., skin lesions, needle biopsy) which accounted for 32.5 percent of all the associated laboratory procedures; and 88305 (Diagnostic exam, larger specimen or multiple small specimens; e.g., prostrate clippings, uterine curettings, segment of stomach) which accounted for 20.5 percent of all associated laboratory services. Given the nature of the surgeries performed (recall that the included surgeries were mainly excisions, biopsies, or colonoscopies) the prevalence of these two laboratory procedures is to be expected. The remaining 47 percent of associated laboratory services are widely distributed across almost 120 laboratory procedure codes.[11]

The distribution of radiology procedures associated with the surgeries identified in Table 8, was similarly disperse. However, three radiology procedures accounted for roughly 60 percent of all services. These three codes were: 73110, accounting for 34.8 percent of claims, (Radiologic examination, wrist; anteroposterior and lateral views, complete, minimum of three views); 73100, accounting for 13 percent of claims, (Radiologic examination, wrist; anteroposterior and lateral views); and 73030, accounting for 12 percent of all claims (Radiologic examination, shoulder; complete, minimum of two views). Once again, these radiology procedures correspond well with the type of surgery

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10. These sample claims were derived from the merged file. The merged file claims were selected by surgery code and presence of a laboratory procedure code. We first identified 34 HCPCS surgery codes on the OPD file which had an associated laboratory charge at least 60% of the time. We then used the merged file to select any claim with one of the identified surgery codes, and then arrayed the laboratory codes present on those surgery claims.

11. The only other pathology codes with any substantial number of claims (in addition to the previously noted 88304 and 88305) were 88300, (Surgical pathology, gross examination only) and 88331 (Consultation during surgery with frozen sections). These codes accounted for an additional 6.0 percent and 6.6 percent of associated laboratory services, respectively.

identified in Table 8. The remaining 40 percent of associated radiology claims were distributed across approximately forty other radiology procedure codes.

This analysis implies that it would be possible to establish a range of acceptable ancillary service codes which could be associated with a given surgery procedure, or range of surgery procedures. Thus, for example, a payment system could incorporate a bundled rate for excision or biopsy surgeries which is based on a payment rate for the surgery, plus the average rate for laboratory procedure codes 88304 and 88305. Since these two codes represent only half of the claims with associated laboratory procedures, an alternative would be to bundle in laboratory charges at a rate equal to the average across all 172 laboratory codes associated with those surgery procedures. However, careful analysis of these 172 codes would be required in order to assess their clinical relationship to the associated surgery procedure.

IMPLICATIONS FOR A PROSPECTIVE PAYMENT SYSTEM

Before discussing how these findings affect decisions about the bundling of ancillary services into surgery payments, the structure and objectives of the potential prospective payment system for hospital OPDs as well as the current system of reimbursement for ancillary services and its incentives should be noted.

Under current Medicare reimbursement, hospital outpatient departments (OPDs) receive a separate payment for ancillary services regardless of whether the service is provided alone or in conjunction with other services such as surgery procedures. For laboratory services provided in OPDs, reimbursement is based on a fee schedule which is set at 60 percent of the prevailing charge for

a given laboratory test. The prevailing charge is the 75th percentile of customary charges for all providers that provide the service on an outpatient basis. For high volume and automated tests, OPDs receive payment equal to the 20th percentile of customary charges.

For radiology services such as therapeutic radiology, magnetic resonance imaging, and diagnostic ultrasound, hospital OPDs are paid based on a 50/50 blend of hospitals' reasonable costs and 62 percent of the professional payment component for radiology services. Beginning on October 1, 1989 payment for other outpatient procedures (e.g., EKGs, lithotripsy) is based on a similar methodology but the blend will consist of hospitals' reasonable costs and 42 percent of physicians' prevailing charges.[12]

The current systems of reimbursement for ancillary services were designed principally to contain costs. While they have the advantage from the cost containment perspective of not being purely "reasonable cost" based, they fail to provide any incentive to control volume.

The main objectives of the potential prospective payment system for hospital OPDs include controlling cost growth, creating an administratively easier system, and injecting rationality into the existing outpatient reimbursement systems. Cost containment can be approached in two ways: controlling unit costs and controlling volume. Unit cost control is achieved by moving away from reasonable cost-based reimbursement. In that respect fee schedules and PPS systems are very similar. There are two components of volume--quantity (numbers of procedures) and intensity (type of procedures). Prospective payment in and of itself will not control either component of

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12. Prospective Payment Assessment Commission, "Medicare Payment for Hospitals Outpatient Surgery: The Views of the Prospective Payment Assessment Commission," April 1989, C-89-01, Washington, DC.

volume. However, bundling services in conjunction with surgery procedures into a single rate can potentially control both volume components. In a bundled system, hospitals that provide excessive ancillary services or excessive expensive types of ancillary services will be penalized.

Since each of the classification systems being considered for use in a prospective payment system for hospital OPDs is visit based, it is likely that the unit of payment under a new reimbursement system will be the visit rather than the episode. A system based on episodes would provide a greater incentive to contain ancillary service provision (as well as revisits). A visit-based reimbursement system allows tests and diagnostic procedures to be unbundled across multiple visits and possibly across multiple settings. However, cost containment incentives can be introduced into a visit system scheme. At issue here is whether within the context of a visit-based system, ancillary services should be bundled into the payment weights and rates for surgery procedure categories.

CONCLUSIONS

Should ancillary services be bundled into a prospective payment rate for surgery procedures performed in the hospital outpatient department? As noted earlier three main options exist: bundle all, some, or no ancillary services into the payment rate. If the findings had shown the percentage of claims with ancillary services was in the 90 percent range and there was little variation in the charges attributable to ancillary service provision by procedure, the results would be seen as a strong indication that most ancillary services should be bundled into a prospective payment rate for surgery procedures. This was not the case.

Yet, over 67 percent of all claims and close to 60 percent of all outpatient surgery claims contained charges for ancillary services. Furthermore, a substantial number of surgery procedures had associated lab or radiology charges more than 60 percent of the time. From the perspective of charges, on average, 15 percent of total charges for surgery procedures were attributable to ancillary service provision, documenting that ancillary services comprise a significant component of total charges. Consequently, the option of bundling ancillary services into a surgery payment rate cannot be easily dismissed. Rather, the following questions should be addressed. First, are the similar charges across procedures presented in this paper representing the provision of a consistent regimen of routine tests? Second, are there patterns to ancillary service provision within procedure classes? Finally, what criteria should be used to determine whether different types of ancillary services should be included in a prospective payment?

Based on our analysis of surgery procedures and related laboratory and radiology procedures, it appears that there are identifiable patterns of ancillary service provision. It further appears that these patterns represent a consistent regimen of tests. The data indicate that the types of surgeries which generally involve a laboratory or radiology service can be identified, and the types of laboratory or radiology services associated with particular surgery procedures can be identified as well.

We have shown, for example, that surgery procedures involving excisions, scopes, or biopsies have high associated rates of laboratory procedures. The laboratory services associated with those services generally fall into the category of diagnostic exam. We have also shown that surgery procedures involving fractures or dislocations have high rates of associated radiology

procedures. The radiology procedures performed in conjunction with surgeries are both identifiable and consistent with the type of surgery performed.

Not only are there identifiable patterns of related surgeries and ancillaries, but there are also clearcut patterns across ancillary categories. It appears that some ancillary services may be more appropriate for bundling than others. Cost patterns across procedures in the laboratory, laboratory pathology, and diagnostic radiology revenue centers may suggest that a certain regimen of tests or diagnostic procedures may be ordered by some physicians for certain types of patients. These ancillary services would be good candidates for bundling.

In contrast, charges for therapeutic radiology, nuclear medicine and CAT scans occur in less than 2 percent of all surgery claims. When they do occur, the charges are more than twice as high as other revenue center charges. The types of services attributable to these revenue centers tend to reflect special patient specific needs, i.e. it is not routine for a patient requiring a lens extraction to receive a CAT scan or chemotherapy. This pattern bodes against the bundling of these types of services into a surgery payment rate; rather, they should be reimbursed separately according to patient need.[13]

The remaining question -- what criteria should be used to determine whether different types of ancillary services should be included in a prospective payment? -- has two possible answers. The determination can be based either on objective clinical standards, or it can be based on empirical analysis. It should be possible, in the first instance, for a physician panel to identify the general types of ancillary procedures associated with broad categories of medical or surgical procedures. That is, based solely on

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13. For example, the PACS system categorizes CAT scans in a separate payment group recognizing the special nature of this service.

clinical standards, physicians might concur that treatment of fractures should always include a specific type of radiology procedure. It may even be possible for physicians to normatively state that surgery procedure "x" generally involves lab procedure "y" or radiology procedure "z." Bundled procedures could be established based on physician determined clinical norms.

Alternatively, the treatment patterns present in claims data could be used to identify procedures which in practice are frequently bundled. We should note, however, that observed treatment patterns may be neither clinically nor efficiently optimal. The problem with an empirical approach then becomes the establishment of cutoff levels. Should we bundle together procedures which appear in tandem 75 percent of the time? 50 percent of the time? etc. This is a basic policy question which cannot be answered satisfactorily on an objective empirical basis.

Yet another approach could be taken which would combine elements of the two options above. Bundles could be defined according to clinical norms, and weights and rates (based on average historical charges or costs) could then be calculated from claims data and assigned to the bundles. This approach would be in keeping with the development of a classification scheme, such as APGs, based on clinical norms and the independent calculation of group weights and payment rates.

In general, the results presented in this paper argue that if ancillary services are to be bundled into a prospective payment rate for surgery procedures, the ancillary add-on amounts should be procedure specific, or possibly procedure class specific, and should only include those services or categories of services provided with some consistency or above some threshold. Other, less routinely performed and more expensive services, should be reimbursed separately.

Some considerations about this approach are worth noting. First, the bundling of ancillary services into surgery payments assumes that cases requiring these services are evenly distributed across beneficiaries and providers. This may or may not be a valid assumption. For example, extensive ancillary service use could reflect a population with more complicating conditions or could reflect the use of additional testing in teaching hospitals. If either of these scenarios are accurate, then bundling an average ancillary cost into surgery payments could have adverse distributional effects on teaching hospitals and hospitals serving patients with greater needs. However, as with the inpatient PPS, special adjustments could be made to compensate for these factors.

Second, ancillary services for the most part are ordered by physicians. While hospitals may have some control over the costs of these services, they are unlikely to have a great deal of control over ancillary service use in outpatient surgery procedures if a large percentage of procedures are performed by non-staff physicians. The question becomes whether factors which cannot be directly controlled by the hospital should be incorporated into a hospital OPD payment system? Perhaps the current reimbursement system for laboratory and radiology services is more appropriate given that it is designed to control cost rather than volume. On the other hand, hospitals have apparently been successful at controlling physician behavior on the inpatient side under PPS; the techniques used there may be transferrable to the outpatient side of hospital operations.

Finally, we would argue that bundling, where feasible, within a visit context, is preferable to not bundling. It should provide a modicum of control over service volume and promote greater efficiency in service delivery. We

would also argue, however, that on both counts, bundling within a visit-based system is a less preferable approach than the development of episodes of care.

APPENDIX A

Surgery Claims by Percent with Lab or Radiology Charge Sorted by HCPCS Surgery Code

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY HCPCS SURGERY CODE

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
1	10000	80	37.500000	2.500000	7.500000
2	10060	359	48.189415	1.949861	5.292479
3	10100	92	32.608696	5.434783	16.304348
4	10120	97	31.958763	10.309278	14.432990
5	10160	58	39.655172	1.724138	12.068966
6	11040	674	13.946588	5.786350	4.451039
7	11100	710	56.901408	0.704225	4.929577
8	11400	186	76.344086	0.000000	3.225806
9	11402	4718	63.755829	1.080967	5.977109
10	11420	95	69.473684	0.000000	10.526316
11	11440	719	69.819193	0.556328	7.093185
12	11600	112	3.571429	0.000000	0.892857
13	11700	153	1.960784	3.267974	0.000000
14	11750	297	25.252525	3.367003	5.723906
15	12001	3000	4.400000	30.033333	5.033333
16	12002	393	3.562341	29.516539	3.816794
17	12011	440	4.318182	31.136364	8.863636
18	12013	118	2.542373	37.288136	7.627119
19	13150	126	46.825397	1.587302	11.111111
20	14020	106	0.943396	29.245283	9.433962
21	15120	70	48.571429	1.428571	4.285714
22	15920	182	62.637363	0.000000	21.978022
23	17000	65	38.461538	0.000000	7.692308
24	17304	109	23.853211	0.917431	3.669725
25	17340	53	13.207547	1.886792	1.886792
26	17999	91	4.395604	2.197802	1.098901
27	19100	334	32.335329	6.886228	52.994012
28	19101	1226	39.396411	5.301794	46.003263
29	19120	918	42.592593	3.485839	43.246187
30	19160	103	43.689320	5.825243	46.601942
31	19260	75	74.666667	1.333333	10.666667
32	20200	78	66.666667	1.282051	8.974359
33	20220	480	68.958333	1.875000	17.708333
34	20550	246	4.471545	24.390244	6.504065
35	20610	355	29.859155	12.676056	14.084507
36	20670	165	33.333333	11.515152	25.454545
37	20680	177	34.463277	11.299435	23.728814
38	23650	86	1.162791	84.883721	10.465116
39	24105	61	63.934426	0.000000	27.868852
40	25111	127	60.629921	0.000000	24.409449
41	25600	303	0.330033	72.937294	20.792079
42	26055	230	31.739130	1.304348	13.913043
43	26122	124	58.870968	0.806452	26.612903
44	27345	98	67.346939	1.020408	11.224490
45	28080	97	63.917526	2.061856	24.742268
46	28285	117	47.008547	3.418803	25.641026
47	28292	133	50.375940	3.759398	33.082707
48	28299	66	48.484848	3.030303	36.363636
49	28820	65	73.846154	0.000000	16.923077
50	29125	82	1.219512	82.926829	6.097561
51	29580	99	0.000000	2.020202	0.000000
52	29881	294	40.816327	4.421769	39.795918
53	30000	612	29.575163	0.000000	70.424837
54	30100	91	30.769231	2.197802	65.934066
55	30116	79	56.962025	0.000000	30.379747
56	30117	64	67.187500	0.000000	6.250000
57	30520	62	48.387097	1.612903	24.193548
58	30901	265	36.226415	0.754717	1.132075
59	31575	212	35.849057	8.018868	26.886792
60	31622	781	49.935980	3.329065	32.266325
61	31625	580	48.793103	3.793103	41.896552
62	31628	60	20.000000	11.666667	61.666667
63	32000	265	13.584906	28.679245	47.924528
64	32405	167	4.191617	17.964072	74.850299

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY HCPCS SURGERY CODE

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
65	33212	110	27.272727	6.363636	27.272727
66	34101	154	50.649351	0.000000	5.844156
67	34111	58	41.379310	5.172414	1.724138
68	36000	429	62.237762	1.398601	36.130536
69	36145	59	22.033898	6.779661	13.559322
70	36400	691	74.384949	2.026049	9.985528
71	36430	755	62.781457	1.456954	3.443709
72	36489	302	13.907285	41.721854	25.827815
73	36600	72	38.888889	4.166667	44.444444
74	36860	166	48.192771	3.614458	12.048193
75	37609	203	71.428571	1.477833	7.389163
76	37799	111	40.540541	2.702703	16.216216
77	38500	218	68.348624	0.000000	17.889908
78	38525	53	67.924528	0.000000	15.094340
79	41899	144	36.111111	4.166667	31.944444
80	43200	348	31.321839	9.482759	7.183908
81	43220	675	7.703704	15.703704	2.814815
82	43234	1922	33.454735	4.370447	5.931322
83	43235	2765	28.209765	6.075949	5.714286
84	43239	438	67.579909	2.283105	8.675799
85	43245	77	19.480519	12.987013	5.194805
86	43246	55	18.181818	9.090909	3.636364
87	43260	131	3.053435	58.015267	26.717557
88	43268	62	3.225806	62.903226	29.032258
89	43605	65	64.615385	0.000000	9.230769
90	43760	80	6.250000	18.750000	1.250000
91	43830	56	21.428571	12.500000	12.500000
92	44025	119	55.462185	0.840336	11.764706
93	44110	377	65.517241	3.713528	5.835544
94	45053	261	83.141762	0.000000	16.858238
95	45100	56	57.142857	7.142857	16.071429
96	45300	1447	9.744299	40.635798	8.154803
97	45310	127	55.905512	2.362205	13.385827
98	45330	7766	25.791913	17.164563	6.785990
99	45331	344	59.011628	5.232558	12.209302
100	45333	93	64.516129	2.150538	15.053763
101	45355	112	35.714286	8.035714	11.607143
102	45360	253	22.924901	9.881423	7.905138
103	45365	82	63.414634	4.878049	9.756098
104	45370	91	71.428571	3.296703	2.197802
105	45378	2915	22.915952	14.716981	8.096055
106	45380	83	68.674699	3.614458	12.048193
107	45385	153	67.320261	0.000000	5.228758
108	46255	53	35.849057	3.773585	30.188679
109	47000	112	56.250000	7.142857	28.571429
110	49081	121	34.710744	8.264463	8.264463
111	49505	828	42.995169	2.657005	37.439614
112	49560	56	46.428571	7.142857	30.357143
113	50590	116	12.931034	18.103448	32.758621
114	51720	93	22.580645	3.225806	7.526882
115	52000	5165	31.616651	10.667957	23.891578
116	52204	109	50.458716	7.339450	32.110092
117	52234	200	44.000000	4.500000	34.500000
118	52281	51	17.647059	1.960784	50.980392
119	52332	74	25.675676	13.513514	25.675676
120	52606	197	34.010152	11.675127	19.796954
121	53660	200	32.500000	6.000000	12.500000
122	53670	1079	34.661724	3.429101	8.433735
123	53899	91	39.560440	9.890110	17.582418
124	54161	161	57.142857	0.000000	27.950311
125	54521	111	69.369369	0.900901	16.216216
126	55700	267	61.048689	1.872659	22.846442
127	55705	53	54.716981	5.660377	28.301887
128	56501	57	59.649123	0.000000	19.298246

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY HCPCS SURGERY CODE

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
129	58120	901	51.831299	1.775805	36.958935
130	62000	76	55.263158	0.000000	44.736842
131	62270	88	57.954545	3.409091	22.727273
132	62272	190	2.631579	0.000000	0.000000
133	62278	302	5.298013	8.278146	1.324503
134	62289	794	3.400504	5.919395	1.259446
135	64450	343	3.790087	4.373178	1.457726
136	64510	120	4.166667	7.500000	0.833333
137	64718	55	45.454545	5.454545	14.545455
138	64721	1039	37.247353	1.924928	23.965351
139	65420	62	62.903226	4.838710	4.838710
140	65850	97	7.216495	2.061856	8.247423
141	65855	710	1.690141	0.985915	0.140845
142	66170	198	22.727273	2.525253	10.606061
143	66500	207	0.966184	0.000000	0.483092
144	66625	132	6.818182	1.515152	1.515152
145	66761	277	1.444043	0.361011	1.083032
146	66762	118	0.000000	0.000000	0.000000
147	66800	592	1.351351	0.168919	1.689189
148	66802	271	7.380074	0.000000	4.059041
149	66820	749	1.735648	1.068091	0.667557
150	66821	866	14.780600	3.117783	8.429561
151	66830	339	6.489676	0.000000	2.949853
152	66840	152	38.157895	3.947368	23.684211
153	66850	173	5.780347	1.156069	2.312139
154	66920	1290	48.682171	1.550388	24.496124
155	66983	159	45.911950	1.886792	23.899371
156	66984	6882	44.514868	1.865893	22.444023
157	66985	436	41.743119	0.688073	19.036697
158	66999	390	4.615385	2.051282	7.692308
159	67105	183	0.546448	0.000000	0.000000
160	67141	54	11.111111	1.851852	7.407407
161	67145	515	2.135922	4.854369	0.000000
162	67210	268	0.746269	1.119403	0.746269
163	67228	578	0.633714	0.697085	0.063371
164	67299	157	0.000000	3.821656	0.636943
165	67599	282	9.219858	0.354610	3.546099
166	67800	92	43.478261	0.000000	2.173913
167	67840	302	71.192053	0.662252	5.629139
168	67906	99	50.505051	3.030303	7.070707
169	67924	67	35.820896	0.000000	19.402985
170	67999	194	38.144330	1.546392	15.463918
171	69437	138	22.463768	0.724638	18.115942
172	90955	492	38.821138	0.813008	2.439024

APPENDIX B

Surgery Claims by Percent with Lab or Radiology Charge Sorted by Percentage of Claims with Lab Charges

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH LAB CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
1	29580	99	0.000000	2.020202	0.000000
2	66762	118	0.000000	0.000000	0.000000
3	67299	157	0.000000	3.821656	0.636943
4	25600	303	0.330033	72.937294	20.792079
5	67105	183	0.546448	0.000000	0.000000
6	67228	1578	0.633714	0.697085	0.063371
7	67210	268	0.746269	1.119403	0.746269
8	14020	106	0.943396	29.245283	9.433962
9	66500	207	0.966184	0.000000	0.483092
10	23650	86	1.162791	84.883721	10.465116
11	29125	82	1.219512	82.926829	6.097561
12	66800	592	1.351351	0.168919	1.689189
13	66761	277	1.444043	0.361011	1.083032
14	65855	710	1.690141	0.985915	0.140845
15	66820	749	1.735648	1.068091	0.667557
16	11700	153	1.960784	3.267974	0.000000
17	67145	515	2.135922	4.854369	0.000000
18	12013	118	2.542373	37.288136	7.627119
19	62272	190	2.631579	0.000000	0.000000
20	43260	131	3.053435	58.015267	26.717557
21	43268	62	3.225806	62.903226	29.032258
22	62289	794	3.400504	5.919395	1.259446
23	12002	393	3.562341	29.516539	3.816794
24	11600	112	3.571429	0.000000	0.892857
25	64450	343	3.790087	4.373178	1.457726
26	64510	120	4.166667	7.500000	0.833333
27	32405	167	4.191617	17.964072	74.850299
28	12011	440	4.318182	31.136364	8.863636
29	17999	91	4.395604	2.197802	1.098901
30	12001	3000	4.400000	30.033333	5.033333
31	20550	246	4.471545	24.390244	6.504065
32	66999	390	4.615385	2.051282	7.692308
33	62278	302	5.298013	8.278146	1.324503
34	66850	173	5.780347	1.156069	2.312139
35	43760	80	6.250000	18.750000	1.250000
36	66830	339	6.489676	0.000000	2.949853
37	66625	132	6.818182	1.515152	1.515152
38	65850	97	7.216495	2.061856	8.247423
39	66802	271	7.380074	0.000000	4.059041
40	43220	675	7.703704	15.703704	2.814815
41	67599	282	9.219858	0.354610	3.546099
42	45300	1447	9.744299	40.635798	8.154803
43	67141	54	11.111111	1.851852	7.407407
44	50590	116	12.931034	18.103448	32.758621
45	17340	53	13.207547	1.886792	1.886792
46	32000	265	13.584906	28.679245	47.924528
47	36489	302	13.907285	41.721854	25.827815
48	11040	674	13.946588	5.786350	4.451039
49	66821	866	14.780600	3.117783	8.429561
50	52281	51	17.647059	1.960784	50.980392
51	43246	55	18.181818	9.090909	3.636364
52	43245	77	19.480519	12.987013	5.194805
53	31628	60	20.000000	11.666667	61.666667
54	43830	56	21.428571	12.500000	12.500000
55	36145	59	22.033898	6.779661	13.559322
56	69437	138	22.463768	0.724638	18.115942
57	51720	93	22.580645	3.225806	7.526882
58	66170	198	22.727273	2.525253	10.606061
59	45378	2915	22.915952	14.716981	8.096055
60	45360	253	22.924901	9.881423	7.905138
61	17304	109	23.853211	0.917431	3.669725
62	11750	297	25.252525	3.367003	5.723906
63	52332	74	25.675676	13.513514	25.675676
64	45330	7766	25.791913	17.164563	6.785990

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH LAB CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
65	33212	110	27.272727	6.363636	27.272727
66	43235	2765	28.209765	6.075949	5.714286
67	30000	612	29.575163	0.000000	70.424837
68	20610	355	29.859155	12.676056	14.084507
69	30100	91	30.769231	2.197802	65.934066
70	43200	348	31.321839	9.482759	7.183908
71	52000	5165	31.616651	10.667957	23.891578
72	26055	230	31.739130	1.304348	13.913043
73	10120	97	31.958763	10.309278	14.432990
74	19100	334	32.335329	6.886228	52.994012
75	53660	200	32.500000	6.000000	12.500000
76	10100	92	32.608696	5.434783	16.304348
77	20670	165	33.333333	11.515152	25.454545
78	43234	1922	33.454735	4.370447	5.931322
79	52606	197	34.010152	11.675127	19.796954
80	20680	177	34.463277	11.299435	23.728814
81	53670	1079	34.661724	3.429101	8.433735
82	49081	121	34.710744	8.264463	8.264463
83	45355	112	35.714286	8.035714	11.607143
84	67924	67	35.820896	0.000000	19.402985
85	31575	212	35.849057	8.018868	26.886792
86	46255	53	35.849057	3.773585	30.188679
87	41899	144	36.111111	4.166667	31.944444
88	30901	265	36.226415	0.754717	1.132075
89	64721	1039	37.247353	1.924928	23.965351
90	10000	80	37.500000	2.500000	7.500000
91	67999	194	38.144330	1.546392	15.463918
92	66840	152	38.157895	3.947368	23.684211
93	17000	65	38.461538	0.000000	7.692308
94	90955	492	38.821138	0.813008	2.439024
95	36600	72	38.888889	4.166667	44.444444
96	19101	1226	39.396411	5.301794	46.003263
97	53899	91	39.560440	9.890110	17.582418
98	10160	58	39.655172	1.724138	12.068966
99	37799	111	40.540541	2.702703	16.216216
100	29881	294	40.816327	4.421769	39.795918
101	34111	58	41.379310	5.172414	1.724138
102	66985	436	41.743119	0.688073	19.036697
103	19120	918	42.592593	3.485839	43.246187
104	49505	828	42.995169	2.657005	37.439614
105	67800	92	43.478261	0.000000	2.173913
106	19160	103	43.689320	5.825243	46.601942
107	52234	200	44.000000	4.500000	34.500000
108	66984	16882	44.514868	1.865893	22.444023
109	64718	55	45.454545	5.454545	14.545455
110	66983	159	45.911950	1.886792	23.899371
111	49560	56	46.428571	7.142857	30.357143
112	13150	126	46.825397	1.587302	11.111111
113	28285	117	47.008547	3.418803	25.641026
114	10060	359	48.189415	1.949861	5.292479
115	36860	166	48.192771	3.614458	12.048193
116	30520	62	48.387097	1.612903	24.193548
117	28299	66	48.484848	3.030303	36.363636
118	15120	70	48.571429	1.428571	4.285714
119	66920	1290	48.682171	1.550388	24.496124
120	31625	580	48.793103	3.793103	41.896552
121	31622	781	49.935980	3.329065	32.266325
122	28292	133	50.375940	3.759398	33.082707
123	52204	109	50.458716	7.339450	32.110092
124	67906	99	50.505051	3.030303	7.070707
125	34101	154	50.649351	0.000000	5.844156
126	58120	901	51.831299	1.775805	36.958935
127	55705	53	54.716981	5.660377	28.301887
128	62000	76	55.263158	0.000000	44.736842

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH LAB CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
129	44025	119	55.462185	0.840336	11.764706
130	45310	127	55.905512	2.362205	13.385827
131	47000	112	56.250000	7.142857	28.571429
132	11100	710	56.901408	0.704225	4.929577
133	30116	79	56.962025	0.000000	30.379747
134	45100	56	57.142857	7.142857	16.071429
135	54161	161	57.142857	0.000000	27.950311
136	62270	88	57.954545	3.409091	22.727273
137	26122	124	58.870968	0.806452	26.612903
138	45331	344	59.011628	5.232558	12.209302
139	56501	57	59.649123	0.000000	19.298246
140	25111	127	60.629921	0.000000	24.409449
141	55700	267	61.048689	1.872659	22.846442
142	36000	429	62.237762	1.398601	36.130536
143	15920	182	62.637363	0.000000	21.978022
144	36430	755	62.781457	1.456954	3.443709
145	65420	62	62.903226	4.838710	4.838710
146	45365	82	63.414634	4.878049	9.756098
147	11402	4718	63.755829	1.080967	5.977109
148	28080	97	63.917526	2.061856	24.742268
149	24105	61	63.934426	0.000000	27.868852
150	45333	93	64.516129	2.150538	15.053763
151	43605	65	64.615385	0.000000	9.230769
152	44110	377	65.517241	3.713528	5.835544
153	20200	78	66.666667	1.282051	8.974359
154	30117	64	67.187500	0.000000	6.250000
155	45385	153	67.320261	0.000000	5.228758
156	27345	98	67.346939	1.020408	11.224490
157	43239	438	67.579909	2.283105	8.675799
158	38525	53	67.924528	0.000000	15.094340
159	38500	218	68.348624	0.000000	17.889908
160	45380	83	68.674699	3.614458	12.048193
161	20220	480	68.958333	1.875000	17.708333
162	54521	111	69.369369	0.900901	16.216216
163	11420	95	69.473684	0.000000	10.526316
164	11440	719	69.819193	0.556328	7.093185
165	67840	302	71.192053	0.662252	5.629139
166	37609	203	71.428571	1.477833	7.389163
167	45370	91	71.428571	3.296703	2.197802
168	28820	65	73.846154	0.000000	16.923077
169	36400	691	74.384949	2.026049	9.985528
170	19260	75	74.666667	1.333333	10.666667
171	11400	186	76.344086	0.000000	3.225806
172	45053	261	83.141762	0.000000	16.858238

APPENDIX C

Surgery Claims by Percent with Lab or Radiology Charge Sorted by Percentage of Claims with Radiology Charges

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH RADIOLOGY CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
1	66762	118	0.000000	0.000000	0.000000
2	67105	183	0.546448	0.000000	0.000000
3	66500	207	0.966184	0.000000	0.483092
4	62272	190	2.631579	0.000000	0.000000
5	11600	112	3.571429	0.000000	0.892857
6	66830	339	6.489676	0.000000	2.949853
7	66802	271	7.380074	0.000000	4.059041
8	30000	612	29.575163	0.000000	70.424837
9	67924	67	35.820896	0.000000	19.402985
10	17000	65	38.461538	0.000000	7.692308
11	67800	92	42.478261	0.000000	2.173913
12	34101	154	50.649351	0.000000	5.844156
13	62000	76	55.263158	0.000000	44.736842
14	30116	79	56.962025	0.000000	30.379747
15	54161	161	57.142857	0.000000	27.950311
16	56501	57	59.649123	0.000000	19.298246
17	25111	127	60.629921	0.000000	24.409449
18	15920	182	62.637363	0.000000	21.978022
19	24105	61	63.934426	0.000000	27.868852
20	43605	65	64.615385	0.000000	9.230769
21	30117	64	67.187500	0.000000	6.250000
22	45385	153	67.320261	0.000000	5.228758
23	38525	53	67.924528	0.000000	15.094340
24	38500	218	68.348624	0.000000	17.889908
25	11420	95	69.473684	0.000000	10.526316
26	28820	65	73.846154	0.000000	16.923077
27	11400	186	76.344086	0.000000	3.225806
28	45053	261	83.141762	0.000000	16.858238
29	66800	592	1.351351	0.168919	1.689189
30	67599	282	9.219858	0.354610	3.546099
31	66761	277	1.444043	0.361011	1.083032
32	11440	719	69.819193	0.556328	7.093185
33	67840	302	71.192053	0.662252	5.629139
34	66985	436	41.743119	0.688073	19.036697
35	67228	1578	0.633714	0.697085	0.063371
36	11100	710	56.901408	0.704225	4.929577
37	69437	138	22.463768	0.724638	18.115942
38	30901	265	36.226415	0.754717	1.132075
39	26122	124	58.870968	0.806452	26.612903
40	90955	492	38.821138	0.813008	2.439024
41	44025	119	55.462185	0.840336	11.764706
42	54521	111	69.369369	0.900901	16.216216
43	17304	109	23.853211	0.917431	3.669725
44	65855	710	1.690141	0.985915	0.140845
45	27345	98	67.346939	1.020408	11.224490
46	66820	749	1.735648	1.068091	0.667557
47	11402	4718	63.755829	1.080967	5.977109
48	67210	268	0.746269	1.119403	0.746269
49	66850	173	5.780347	1.156069	2.312139
50	20200	78	66.666667	1.282051	8.974359
51	26055	230	31.739130	1.304348	13.913043
52	19260	75	74.666667	1.333333	10.666667
53	36000	429	62.237762	1.398601	36.130536
54	15120	70	48.571429	1.428571	4.285714
55	36430	755	62.781457	1.456954	3.443709
56	37609	203	71.428571	1.477833	7.389163
57	66625	132	6.818182	1.515152	1.515152
58	67999	194	38.144330	1.546392	15.463918
59	66920	1290	48.682171	1.550388	24.496124
60	13150	126	46.825397	1.587302	11.111111
61	30520	62	48.387097	1.612903	24.193548
62	10160	58	39.655172	1.724138	12.068966
63	58120	901	51.831299	1.775805	36.958935
64	67141	54	11.111111	1.851852	7.407407

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH RADIOLOGY CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
65	66984	16882	44.514868	1.865893	22.444023
66	55700	267	61.048689	1.872659	22.846442
67	20220	480	68.958333	1.875000	17.708333
68	17340	53	13.207547	1.886792	1.886792
69	66983	159	45.911950	1.886792	23.899371
70	64721	1039	37.247353	1.924928	23.965351
71	10060	359	48.189415	1.949861	5.292479
72	52281	51	17.647059	1.960784	50.980392
73	29580	99	0.000000	2.020202	0.000000
74	36400	691	74.384949	2.026049	9.985528
75	66999	390	4.615385	2.051282	7.692308
76	65850	97	7.216495	2.061856	8.247423
77	28080	97	63.917526	2.061856	24.742268
78	45333	93	64.516129	2.150538	15.053763
79	17999	91	4.395604	2.197802	1.098901
80	30100	91	30.769231	2.197802	65.934066
81	43239	438	67.579909	2.283105	8.675799
82	45310	127	55.905512	2.362205	13.385827
83	10000	80	37.500000	2.500000	7.500000
84	66170	198	22.727273	2.525253	10.606061
85	49505	828	42.995169	2.657005	37.439614
86	37799	111	40.540541	2.702703	16.216216
87	28299	66	48.484848	3.030303	36.363636
88	67906	99	50.505051	3.030303	7.070707
89	66821	866	14.780600	3.117783	8.429561
90	51720	93	22.580645	3.225806	7.526882
91	11700	153	1.960784	3.267974	0.000000
92	45370	91	71.428571	3.296703	2.197802
93	31622	781	49.935980	3.329065	32.266325
94	11750	297	25.252525	3.367003	5.723906
95	62270	88	57.954545	3.409091	22.727273
96	28285	117	47.008547	3.418803	25.641026
97	53670	1079	34.661724	3.429101	8.433735
98	19120	918	42.592593	3.485839	43.246187
99	36860	166	48.192771	3.614458	12.048193
100	45380	83	68.674699	3.614458	12.048193
101	44110	377	65.517241	3.713528	5.835544
102	28292	133	50.375940	3.759398	33.082707
103	46255	53	35.849057	3.773585	30.188679
104	31625	580	48.793103	3.793103	41.896552
105	67299	157	0.000000	3.821656	0.636943
106	66840	152	38.157895	3.947368	23.684211
107	41899	144	36.111111	4.166667	31.944444
108	36600	72	38.888889	4.166667	44.444444
109	43234	1922	33.454735	4.370447	5.931322
110	64450	343	3.790087	4.373178	1.457726
111	29881	294	40.816327	4.421769	39.795918
112	52234	200	44.000000	4.500000	34.500000
113	65420	62	62.903226	4.838710	4.838710
114	67145	515	2.135922	4.854369	0.000000
115	45365	82	63.414634	4.878049	9.756098
116	34111	58	41.379310	5.172414	1.724138
117	45331	344	59.011628	5.232558	12.209302
118	19101	1226	39.396411	5.301794	46.003263
119	10100	92	32.608696	5.434783	16.304348
120	64718	55	45.454545	5.454545	14.545455
121	55705	53	54.716981	5.660377	28.301887
122	11040	674	13.946588	5.786350	4.451039
123	19160	103	43.689320	5.825243	46.601942
124	62289	794	3.400504	5.919395	1.259446
125	53660	200	32.500000	6.000000	12.500000
126	43235	2765	28.209765	6.075949	5.714286
127	33212	110	27.272727	6.363636	27.272727
128	36145	59	22.033898	6.779661	13.559322

SURGERY CLAIMS BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH RADIOLOGY CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
129	19100	334	32.335329	6.886228	52.994012
130	49560	56	46.428571	7.142857	30.357143
131	47000	112	56.250000	7.142857	28.571429
132	45100	56	57.142857	7.142857	16.071429
133	52204	109	50.458716	7.339450	32.110092
134	64510	120	4.166667	7.500000	0.833333
135	31575	212	35.849057	8.018868	26.886792
136	45355	112	35.714286	8.035714	11.607143
137	49081	121	34.710744	8.264463	8.264463
138	62278	302	5.298013	8.278146	1.324503
139	43246	55	18.181818	9.090909	3.636364
140	43200	348	31.321839	9.482759	7.183908
141	45360	253	22.924901	9.881423	7.905138
142	53899	91	39.560440	9.890110	17.582418
143	10120	97	31.958763	10.309278	14.432990
144	52000	5165	31.616651	10.667957	23.891578
145	20680	177	34.463277	11.299435	23.728814
146	20670	165	33.333333	11.515152	25.454545
147	31628	60	20.000000	11.666667	61.666667
148	52606	197	34.010152	11.675127	19.796954
149	43830	56	21.428571	12.500000	12.500000
150	20610	355	29.859155	12.676056	14.084507
151	43245	77	19.480519	12.987013	5.194805
152	52332	74	25.675676	13.513514	25.675676
153	45378	2915	22.915952	14.716981	8.096055
154	43220	675	7.703704	15.703704	2.814815
155	45330	7766	25.791913	17.164563	6.785990
156	32405	167	4.191617	17.964072	74.850299
157	50590	116	12.931034	18.103448	32.758621
158	43760	80	6.250000	18.750000	1.250000
159	20550	246	4.471545	24.390244	6.504065
160	32000	265	13.584906	28.679245	47.924528
161	14020	106	0.943396	29.245283	9.433962
162	12002	393	3.562341	29.516539	3.816794
163	12001	3000	4.400000	30.033333	5.033333
164	12011	440	4.318182	31.136364	8.863636
165	12013	118	2.542373	37.288136	7.627119
166	45300	1447	9.744299	40.635798	8.154803
167	36489	302	13.907285	41.721854	25.827815
168	43260	131	3.053435	58.015267	26.717557
169	43268	62	3.225806	62.903226	29.032258
170	25600	303	0.330033	72.937294	20.792079
171	29125	82	1.219512	82.926829	6.097561
172	23650	86	1.162791	84.883721	10.465116

APPENDIX D

HCPCS Codes by Percent with Lab or Radiology Charge Sorted by Percentage of Claims with both Lab and Radiology Charges

HCPCS CODES BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH BOTH LAB AND RADIOLOGY CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
1	66762	118	0.000000	0.000000	0.000000
2	67105	183	0.546448	0.000000	0.000000
3	62272	190	2.631579	0.000000	0.000000
4	29580	99	0.000000	2.020202	0.000000
5	11700	153	1.960784	3.267974	0.000000
6	67145	515	2.135922	4.854369	0.000000
7	67228	1578	0.633714	0.697085	0.063371
8	65855	710	1.690141	0.985915	0.140845
9	66500	207	0.966184	0.000000	0.483092
10	67299	157	0.000000	3.821656	0.636943
11	66920	749	1.735648	1.068091	0.667557
12	67210	268	0.746269	1.119403	0.746269
13	64510	120	4.166667	7.500000	0.833333
14	11600	112	3.571429	0.000000	0.892857
15	66761	277	1.444043	0.361011	1.083032
16	17999	91	4.395604	2.197802	1.098901
17	30901	265	36.226415	0.754717	1.132075
18	43760	80	6.250000	18.750000	1.250000
19	62289	794	3.400504	5.919395	1.259446
20	62278	302	5.298013	8.278146	1.324503
21	64450	343	3.790087	4.373178	1.457726
22	66625	132	6.818182	1.515152	1.515152
23	66800	592	1.351351	0.168919	1.689189
24	34111	58	41.379310	5.172414	1.724138
25	17340	53	13.207547	1.886792	1.886792
26	67800	92	43.478261	0.000000	2.173913
27	45370	91	71.428571	3.296703	2.197802
28	66850	173	5.780347	1.156069	2.312139
29	90955	492	38.821138	0.813008	2.439024
30	43220	675	7.703704	15.703704	2.814815
31	66830	339	6.489676	0.000000	2.949853
32	11400	186	76.344086	0.000000	3.225806
33	36430	755	62.781457	1.456954	3.443709
34	67599	282	9.219858	0.354610	3.546099
35	43246	55	18.181818	9.090909	3.636364
36	17304	109	23.853211	0.917431	3.669725
37	12002	393	3.562341	29.516539	3.816794
38	66802	271	7.380074	0.000000	4.059041
39	15120	70	48.571429	1.428571	4.285714
40	11040	674	13.946588	5.786350	4.451039
41	65420	62	62.903226	4.838710	4.838710
42	11100	710	56.901408	0.704225	4.929577
43	12001	3000	4.400000	30.033333	5.033333
44	43245	77	19.480519	12.987013	5.194805
45	45385	153	67.320261	0.000000	5.228758
46	10060	359	48.189415	1.949861	5.292479
47	67840	302	71.192053	0.662252	5.629139
48	43235	2765	28.209765	6.075949	5.714286
49	11750	297	25.252525	3.367003	5.723906
50	44110	377	65.517241	3.713528	5.835544
51	34101	154	50.649351	0.000000	5.844156
52	43234	1922	33.454735	4.370447	5.931322
53	11402	4718	63.755829	1.080967	5.977109
54	29125	82	1.219512	82.926829	6.097561
55	30117	64	67.187500	0.000000	6.250000
56	20550	246	4.471545	24.390244	6.504065
57	45330	7766	25.791913	17.164563	6.785990
58	67906	99	50.505051	3.030303	7.070707
59	11440	719	69.819193	0.556328	7.093185
60	43200	348	31.321839	9.482759	7.183908
61	37609	203	71.428571	1.477833	7.389163
62	67141	54	11.111111	1.851852	7.407407
63	10000	80	37.500000	2.500000	7.500000
64	51720	93	22.580645	3.225806	7.526882

HCPCS CODES BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH BOTH LAB AND RADIOLOGY CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
65	12013	118	2.542373	37.288136	7.627119
66	17000	65	38.461538	0.000000	7.692308
67	66999	390	4.615385	2.051282	7.692308
68	45360	253	22.924901	9.881423	7.905138
69	45378	2915	22.915952	14.716981	8.096055
70	45300	1447	9.744299	40.635798	8.154803
71	65850	97	7.216495	2.061856	8.247423
72	49081	121	34.710744	8.264463	8.264463
73	66821	866	14.780600	3.117783	8.429561
74	53670	1079	34.661724	3.429101	8.433735
75	43239	438	67.579909	2.283105	8.675799
76	12011	440	4.318182	31.136364	8.863636
77	20200	78	66.666667	1.282051	8.974359
78	43605	65	64.615385	0.000000	9.230769
79	14020	106	0.943396	29.245283	9.433962
80	45365	82	63.414634	4.878049	9.756098
81	36400	691	74.384949	2.026049	9.985528
82	23650	86	1.162791	84.883721	10.465116
83	11420	95	69.473684	0.000000	10.526316
84	66170	198	22.727273	2.525253	10.606061
85	19260	75	74.666667	1.333333	10.666667
86	13150	126	46.825397	1.587302	11.111111
87	27345	98	67.346939	1.020408	11.224490
88	45355	112	35.714286	8.035714	11.607143
89	44025	119	55.462185	0.840336	11.764706
90	36860	166	48.192771	3.614458	12.048193
91	45380	83	68.674699	3.614458	12.048193
92	10160	58	39.655172	1.724138	12.068966
93	45331	344	59.011628	5.232558	12.209302
94	53660	200	32.500000	6.000000	12.500000
95	43830	56	21.428571	12.500000	12.500000
96	45310	127	55.905512	2.362205	13.385827
97	36145	59	22.033898	6.779661	13.559322
98	26055	230	31.739130	1.304348	13.913043
99	20610	355	29.859155	12.676056	14.084507
100	10120	97	31.958763	10.309278	14.432990
101	64718	55	45.454545	5.454545	14.545455
102	45333	93	64.516129	2.150538	15.053763
103	38525	53	67.924528	0.000000	15.094340
104	67999	194	38.144330	1.546392	15.463918
105	45100	56	57.142857	7.142857	16.071429
106	54521	111	69.369369	0.900901	16.216216
107	37799	111	40.540541	2.702703	16.216216
108	10100	92	32.608696	5.434783	16.304348
109	45053	261	83.141762	0.000000	16.858238
110	28820	65	73.846154	0.000000	16.923077
111	53899	91	39.560440	9.890110	17.582418
112	20220	480	68.958333	1.875000	17.708333
113	38500	218	68.348624	0.000000	17.889908
114	69437	138	22.463768	0.724638	18.115942
115	66985	436	41.743119	0.688073	19.036697
116	56501	57	59.649123	0.000000	19.298246
117	67924	67	35.820896	0.000000	19.402985
118	52606	197	34.010152	11.675127	19.796954
119	25600	303	0.330033	72.937294	20.792079
120	15920	182	62.637363	0.000000	21.978022
121	66984	16882	44.514868	1.865893	22.444023
122	62270	88	57.954545	3.409091	22.727273
123	55700	267	61.048689	1.872659	22.846442
124	66840	152	38.157895	3.947368	23.684211
125	20680	177	34.463277	11.299435	23.728814
126	52000	5165	31.616651	10.667957	23.891578
127	66983	159	45.911950	1.886792	23.899371
128	64721	1039	37.247353	1.924928	23.965351

HCPCS CODES BY PERCENT WITH LAB OR RADIOLOGY CHARGE
SORTED BY % OF CLAIMS WITH BOTH LAB AND RADIOLOGY CHARGES

OBS	HCPCS	TOTAL #	% OF CLAIMS WITH LAB CHRGE	% OF CLAIMS WITH RAD CHRGE	% OF CLAIMS WITH BOTH RAD & LAB
129	30520	62	48.387097	1.612903	24.193548
130	25111	127	60.629921	0.000000	24.409449
131	66920	1290	48.682171	1.550388	24.496124
132	28080	97	63.917526	2.061856	24.742268
133	20670	165	33.333333	11.515152	25.454545
134	28285	117	47.008547	3.418803	25.641026
135	52332	74	25.675676	13.513514	25.675676
136	36489	302	13.907285	41.721854	25.827815
137	26122	124	58.870968	0.806452	26.612903
138	43260	131	3.053435	58.015267	26.717557
139	31575	212	35.849057	8.018868	26.886792
140	33212	110	27.272727	6.363636	27.272727
141	24105	61	63.934426	0.000000	27.868852
142	54161	161	57.142857	0.000000	27.950311
143	55705	53	54.716981	5.660377	28.301887
144	47000	112	56.250000	7.142857	28.571429
145	43268	62	3.225806	62.903226	29.032258
146	46255	53	35.849057	3.773585	30.188679
147	49560	56	46.428571	7.142857	30.357143
148	30116	79	56.962025	0.000000	30.379747
149	41899	144	36.111111	4.166667	31.944444
150	52204	109	50.458716	7.339450	32.110092
151	31622	781	49.935980	3.329065	32.266325
152	50590	116	12.931034	18.103448	32.758621
153	28292	133	50.375940	3.759398	33.082707
154	52234	200	44.000000	4.500000	34.500000
155	36000	429	62.237762	1.398601	36.130536
156	28299	66	48.484848	3.030303	36.363636
157	58120	901	51.831299	1.775805	36.958935
158	49505	828	42.995169	2.657005	37.439614
159	29881	294	40.816327	4.421769	39.795918
160	31625	580	48.793103	3.793103	41.896552
161	19120	918	42.592593	3.485839	43.246187
162	36600	72	38.888889	4.166667	44.444444
163	62000	76	55.263158	0.000000	44.736842
164	19101	1226	39.396411	5.301794	46.003263
165	19160	103	43.689320	5.825243	46.601942
166	32000	265	13.584906	28.679245	47.924528
167	52281	51	17.647059	1.960784	50.980392
168	19100	334	32.335329	6.886228	52.994012
169	31628	60	20.000000	11.666667	61.666667
170	30100	91	30.769231	2.197802	65.934066
171	30000	612	29.575163	0.000000	70.424837
172	32405	167	4.191617	17.964072	74.850299

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